

**MEMORANDUM**  
**PROPOSED REVISIONS TO IDEM'S CSO GUIDANCE**

**A. Affordability Test (40 CFR 131.10(g)(6))**

IDEM will amend its draft guidance to contain a two-step approach, based on EPA economic guidance, to assessing a permittee's financial capability. The first step, the Cost Impact Indicator, identifies the combined impact of wastewater and CSO control costs on individual households. The second step, the Socio-Economic Indicator, examines socio-economic conditions of a permittee, specifically debt burden, socio-economic indicators, and financial management indicators. Information from the two steps is used to assess the Overall Financial Burden of CSO control costs. The following is a simplified outline of the steps in this process.

1. Cost Impact Indicator
  - a. The cost per household of existing annual wastewater treatment and projected annual wastewater treatment and CSO controls is determined.
  - b. The Median Household Income is determined.
  - c. Cost Impact Indicator is derived by dividing the annual costs per household by the Median Household Income (MHI). The impact of the costs is low if the costs are less than 1% of MHI. The impact is medium if costs are 1-2% of MHI. The impact is high if costs are greater than 2% of MHI.
2. Socio-Economic Indicator
  - a. The Community debt burden, unemployment, MHI, and financial indicators are used to create a score representing the socio-economic status.
  - b. The status is ranked low, medium, or high.
3. Over All Evaluation
  - a. Scores for both the Cost Impact and Socio Economic Indicators determine whether the financial burden is low, medium, or high.
  - b. Communities in the low burden category would be expected to implement CSO projects on a normal engineering and construction schedule.
  - c. Communities in a medium burden category would be expected to implement CSO projects on up to a 10 year engineering and construction schedule.
  - d. Communities in a high burden category may be expected to implement CSO projects on a 15-20 year implementation schedule.

***Reduction of CSOs Beyond the Knee-Of-The-Curve***

As you are aware, the Indiana General Assembly enacted SEA 431 last session. This Act allows CSO municipalities to request suspensions of the designated use and associated water quality criteria provided certain criteria are met. One criterion is that the

municipality's long-term control plan provides for the implementation of cost effective controls, which can be determined by using a knee of the curve analysis. However, SEA 431 also requires that the provisions of 40 CFR 131.10 be met; it is our belief that many municipalities will rely on 131.10(g)(6) to meet this criterion.

Indiana recognizes that implementing controls to reduce or eliminate CSO impacts (particularly discharges of *E.coli*) beyond the knee-of-the-curve to the point where the municipality would incur substantial and widespread economic and social hardship ("hardship") could require a large expenditure of money by a municipality. However, a municipality may be able to take other steps to reduce discharges of the pollutant to the impacted receiving stream that would provide a more significant reduction in the pollutant for less cost. Additionally, some municipalities may be incurring financial obligations as a result of their storm water (MS4) requirements. IDEM believes municipalities should be able to factor in these other project costs when determining whether the test set forth in 40 CFR 131.10(g)(6) has been met. Therefore, IDEM is proposing to allow municipalities to follow the approaches outlined below to demonstrate that they have met the requirement in 40 CFR 131.10(g)(6).

Municipalities will be afforded these choices:

1. reduce CSO impacts by implementing CSO controls to the point where the municipality incurs hardship,
2. implement other controls along the impacted receiving stream designed to control the pollutant at issue (for example, eliminate leaking septic systems or implement best management practices) that would result in a reduction of loadings to a level equal to twice the amount of reduction that would otherwise be achieved through CSO controls alone, or
3. use a combination of CSO reductions and other source controls to achieve equivalent or greater pollutant reductions than CSO reductions alone.

Municipalities that decide to implement other source controls besides further CSO reductions must:

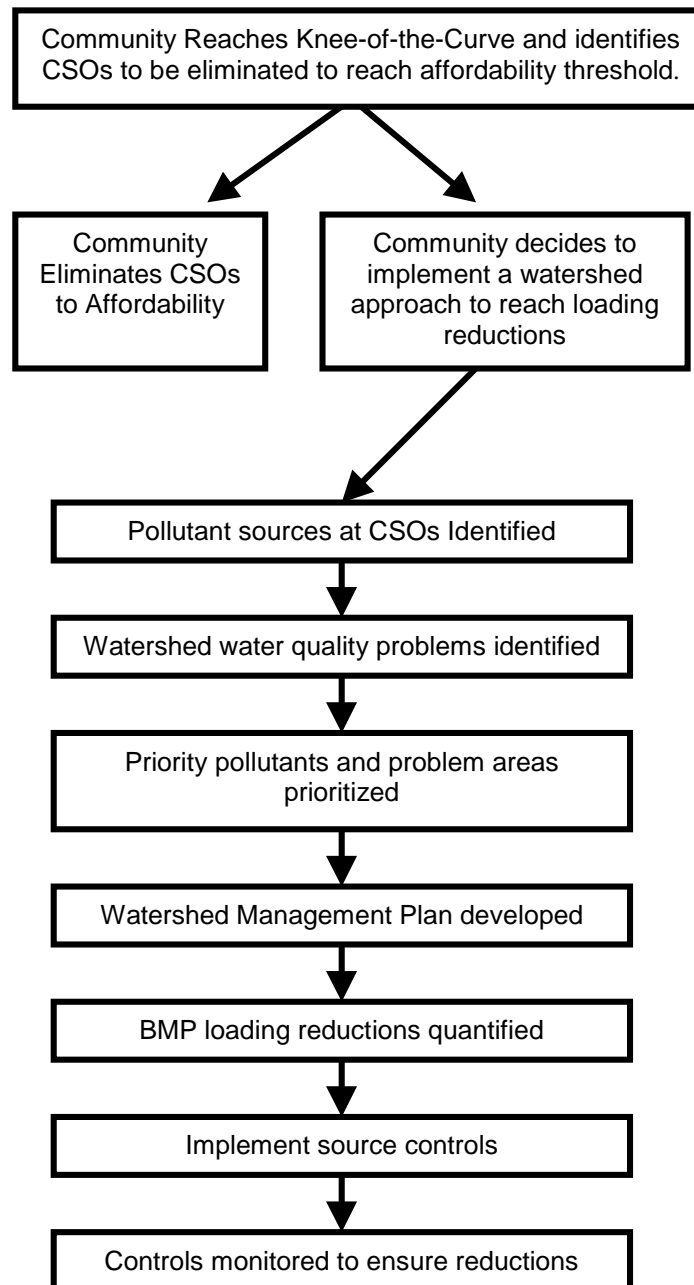
- Identify Pollutant Loading Reductions. Once a municipality reaches the knee-of-the-curve, the municipality must quantify the reduction in pollutant loadings that would be achieved if the municipality implemented such further CSO controls to eliminate impacts as would be necessary before it incurred hardship. Pollutant loadings must be quantified for each specific pollutant at issue.
- Identify water quality problems. Municipalities must identify and document causes of water quality impairments for specific pollutants to the affected receiving water on a 14 digit watershed and explain how the sources were determined.
- Develop a Plan. Municipalities must develop a watershed management plan (see <http://www.ai.org/idem/owm/planbr/wsm/watershed/319Grant/GrantApp/WMPChecklist.html>-for the watershed action checklist containing specific controls that would reduce the impacts by twice the loading levels from CSO outfalls that were not

eliminated. The municipality must have the ability to enforce these controls by developing an ordinance, receiving permanent easements or some other enforceable mechanism.

- Demonstrate how the plan would reduce loadings. The municipality ~~community~~ must quantify the reductions in specific pollutant loadings to the affected receiving stream that each project would provide and demonstrate that the pollutants reduced would equal twice the loadings at the CSO outfalls that were not eliminated. Information to be used would include:
  - Total annual load of pollutants.
  - Total annual load reduction through elimination of CSO(s).
  - Total annual load reduction for each source control.
  - Total annual load reduction for all source controls employed.
  - Total annual source controls employed.
  - Comparison of water quality conditions made before and after source controls are implemented.
- Implementation. Municipalities must implement the projects within the same timeframe as CSO controls.
- **Measuring Success.** Upon project completion, source controls must be inspected to ensure that the control is properly sited, the materials and plans satisfy established specifications, and the installation job meets performance standards. Pollutant reductions must be verified and quantified by municipalities. IDEM will notify municipalities that they have met CSO reduction requirements once the reductions were verified using a source control model approved by IDEM. All source controls must undergo an annual on-site assessment by a qualified inspector. The state may require ambient monitoring and modeling to assess the effect of the controls in meeting pollutant load reductions.

This process is illustrated in the attached flowchart.

### Flow Chart: CSO Reduction Beyond Knee-of-the-Curve



## **B. Recombination of Partially Treated Wastewater**

Some municipalities with combined sewer systems have primary treatment capacity that is greater than their secondary treatment capacity. These municipalities may be able to take peak, wet weather flow into their plant and provide primary treatment, but not secondary treatment to the flow before it is recombined with flows that have received biological treatment prior to discharge.

IDEM will not consider facilities operating in this manner to be in violation of the bypass rule (327 IAC 5-2-8(11)) and will recognize such operations in the facilities' NPDES permits if:

1. The facility includes in its application an explanation of how it will utilize all existing equipment to its fullest capacity to maximize treatment of the influent. The facility must include a description of the capacity of the primary and secondary treatment units; a schematic diagram of how the facility will be operated during peak, wet weather flow conditions; a showing that the system has been designed to meet secondary limits for flows greater than the peak dry weather flow plus an appropriate quantity of wet weather flow; a justification for the cut-off point at which flow will be diverted from secondary treatment;
2. All flows that are diverted around the secondary facilities during wet weather flow conditions receive treatment at least equivalent to primary treatment, solids and floatables removal and disposal, and disinfection; and
3. Effluent limitations are met after the flows are recombined and prior to discharge.

The NPDES permit will include conditions:

1. establishing the cut-off point at which flow can be diverted from secondary treatment;
2. requiring the facility to meet effluent limitations after the flows are recombined;
3. requiring the facility to utilize the full treatment capacity of the treatment plant;
4. requiring the plant to be operated in accordance with its application and be maintained in good working order and efficiently operated;
5. establishing monitoring requirements sufficient to enable IDEM to determine whether the effluent limitations and operational requirements are being met at the time the peak, wet weather flow is being taken through and discharged from the plant;

6. establishing any other effluent limitations necessary to ensure compliance with water quality standards or technology-based requirements as a result of the pollutant characteristics of the recombined flow.

The more efficiently existing facilities are utilized, the less prohibitive total CSO control costs are likely to be under the Long Term Control Plan.

IDEM will be developing technical guidance for communities who as part of the Long Term Control Plan are considering recombining of a portion of their wet weather flows. The guidance will provide minimum design criteria to address such issues as peak hydraulic loading, design organic loading, etc. in dry weather versus wet weather.

### **C. Existing Uses:**

EPA regulations allow states to change the use designated for a water body under certain circumstances, provided the state does not remove an existing use (40 CFR 131.10(g)). An existing use is a use actually attained in the water body on or after November 28, 1975 (40 CFR 131.3(e)). A temporary suspension of the designated use is a removal of a use, so existing uses cannot be suspended.

An existing recreational use can be established by demonstrating that:

- fishing, swimming, or other recreational uses have actually occurred on or after November 28, 1975; or
- that the water quality is suitable to allow the recreational use to be attained - unless there are physical problems, such as substrate or flow that prevent the use from being attained.

### ***Principles for Determination of a Recreational Existing Use:***

IDEM recognizes that a recreational use that has occurred on or after November 29, 1975, may not have occurred 365 days each year. For example, people are unlikely to be engaging in recreational activity in the water during the winter or during severe storm events. Therefore, there may be specific time periods when IDEM will not consider a water body to have an existing recreational use.

IDEM will apply the following principles when making an existing use determination.

1. Indiana is determined to take all reasonable steps to protect all people who recreate in its waters, especially children. Therefore, there is a presumption in favor of finding an existing use for full-body contact recreation if the water is free of physical hazards and accessible when flowing near residential neighborhoods, parks, or schools. Indiana recognizes that some of these waters may be too shallow during dry periods of the year to allow for adult swimming activities. However, Indiana also recognizes that: (a) children will still splash in these streams and may ingest the water, and (b) wet weather events that trigger CSO

discharges often provide additional flow that attracts people, especially children, to the water during such times.

2. Indiana does not want to promote recreational usage in waters that are dangerous due to physical hazards in the water, such as swift currents, rapids, dams or shipping traffic. Therefore, Indiana will not presume a recreational use exists for these waters.
3. The occasional or incidental use by individual adults does not automatically establish an existing use for recreation.
4. If there is an actual recreational use of the water during or immediately after a significant wet weather event (except as described in #3), then an existing use has been established. Conversely, if there is no recreational use during or immediately after a significant wet weather event, there will be no recreational existing use for that period.
5. If the water quality is unsafe and access to the water is precluded by (a) existing impediments to physical access such as steep banks, fencing or high retaining walls, or (b) the municipality, then IDEM will not presume an existing recreational use. In order for IDEM to determine that access is precluded by the municipality, the municipality must take steps to actively prevent adults and children from actually using the water. This requires the municipality to prevent and control access to the water and to conduct a reasonable proactive outreach media and educational program to prevent actual use during and immediately following a significant wet weather event. This presumption will not apply to recreational beaches open to the public and other comparable areas designated for public recreation .

IDEM encourages municipalities to consult with the agency prior to completion of a long-term control plan to discuss whether a specific water body has an existing recreational use.